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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/760,179	01/16/2004	William V. Alcini	2001U-001640	8074

27572 7590 09/18/2008

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ART UNIT	PAPER NUMBER
2837	
MAIL DATE	DELIVERY MODE
09/18/2008	PAPER

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte WILLIAM V. ALCINI, PAVEL ROBLES,
RICHARD VENEZIANO, RICO WEINERT, ALEXANDER SCHINKO,
and GEORGE LABARGE

Appeal 2008-2362
Application 10/760,179
Technology Center 2800

Decided: September 18, 2008

Before KENNETH W. HAIRSTON, JOHN C. MARTIN, and LEE E. BARRETT, *Administrative Patent Judges.*

MARTIN, *Administrative Patent Judge.*

DECISION ON APPEAL

STATEMENT OF THE CASE

This is an appeal under 35 U.S.C. § 134(a) from the Examiner's rejection of claims 1-24, all of the pending claims, under 35 U.S.C. § 102(b).

We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

A. Appellants' invention

Appellants' invention relates to sound, performance, and emission control in vehicles utilizing advanced technology, such as cylinder deactivation or hybrid power sources wherein discontinuations occur in the exhaust gas flow rate during operation of the engine (Specification [0001]).

Passive valves have traditionally been used to create dynamic exhaust systems in conventional engines (*id.* at [0003]). A passive valve is one in which the motive force to operate the valve comes from the energy (velocity or pressure) in exhaust gas flow (*id.* at [0004]). These prior art systems have a continuous response proportional to engine speed, a continuous increase in exhaust system pressure as a function of engine speed, and do not have to deal with conditions that are not continuous with engine speed but rather involve step functions of exhaust flow during operation of the vehicle's power source (*id.* at [0003]).

Many advanced engine designs, such as cylinder deactivation systems, create unique exhaust conditions that are not continuous with engine speed or possess larger than normal ranges in exhaust flow wherein cost effective management of sound and/or emissions cannot be met by conventional exhaust system designs (*id.*).

Appellants' solution is to place a passive, temperature resistant valve in a path of exhaust gas flow (*id.* at [0007]).

Appellants' Figure 1 is reproduced below.

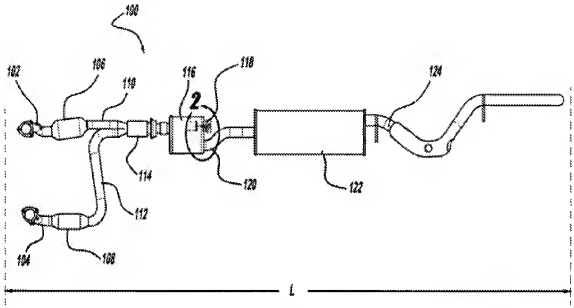

FIG - 1

Figure 1 is a top perspective view of an exhaust system for an advanced internal combustion engine arranged in accordance with the principles of the invention (*id.* at [0010]).

Appellants' Figure 2 is reproduced below.

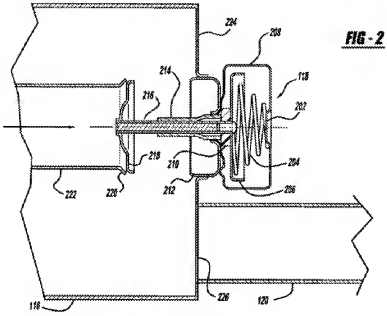

Figure 2 sets forth region 2 of Fig. 1 in more detail (*id.* at [0011]).

The Specification explains that

> [v]alve 118 as set forth in Fig. 2, is "temperature resistant", in that its spring biasing component is housed exteriorly of the actual flow path of exhaust gases in the systems. Additionally, valve 118 contains no membrane elements conventionally required in active and semi-active valve components which are more susceptible to degradation under high temperature.

Id. at [0023].

B. The claims

The independent claims are 1, 6, 16, and 21, of which claims 1 and 6 read as follows:

> 1. A method of controlling exhaust flow in an exhaust system for a non-conventional internal combustion power source exhibiting, during operation, larger ranges of acoustic frequency, flow rate or pressure in exhaust flow than found in conventional internal combustion power sources, the method comprising:
>
> placing a passive temperature resistant valve in a path of exhaust gas flow, the valve operative to at least partially alter a characteristic of the exhaust gas flow for the larger ranges.
>
> 6. A method of sound control in an exhaust system for an internal combustion power source exhibiting discontinuities in exhaust gas flow during operation, the method comprising:
>
> placing a passive, temperature resistant valve in a path of exhaust gas flow, the valve operative to at least partially alter restriction of the exhaust gas flow whenever a discontinuity occurs.

Claims App. to Br.

C. The rejection

Claims 1-25 stand rejected under 35 U.S.C. § 102(b) for anticipation by the following reference:

Yashiro et al. (Yashiro)	US 5,614,699	Mar. 25, 1997

THE ISSUE

The issue is whether Appellants have shown reversible error by the Examiner in maintaining the rejection. *See In re Kahn*, 441 F.3d 977, 985-86 (Fed. Cir. 2006) ("On appeal to the Board, an applicant can overcome a rejection by showing insufficient evidence of *prima facie* obviousness or by

rebutting the *prima facie* case with evidence of secondary indicia of nonobviousness.") (quoting *In re Rouffet*, 149 F.3d 1350, 1355 (Fed. Cir. 1998)). Appellants contend that the Examiner failed to give sufficient weight to the preambular claim language.

ANALYSIS

A. The Yashiro disclosure

Yashiro's invention is "a noise suppressor that reduces the noise produced in the exhaust pipe of an automobile engine" (Yoshiro, col. 1, ll. 6-8).

In the Background of the Invention, Yoshiro explains that "[in] order to obtain satisfactory noise suppression of an automobile engine over the entire range of engine speeds, noise suppressors have been designed that change the way in which they suppress noise according to the engine speed" (*id.*, col. 1, ll. 11-14).

An object of Yashiro's invention is to reduce exhaust noise and prevent energy losses without the use of a complex mechanism, such as an actuator (*id.*, col. 1, ll. 59-61). Yashiro's invention employs a valve mechanism and more particularly comprises a muffler containing: a first noise suppressing mechanism for reducing exhaust noise in the low engine speed region; a first discharge pipe for continuously discharging exhaust from the first noise suppressing mechanism; a second noise suppressing mechanism for reducing exhaust noise in an engine speed region higher than

the low engine speed region; a passage mechanism connecting the first noise suppressing mechanism and second noise suppressing mechanism; a valve mechanism for opening and closing the passage mechanism according to an engine exhaust pressure; and a second discharge pipe for discharging exhaust from the second noise suppressing mechanism (*id.*, col. 2, ll. 3-16).

Yashiro's Figure 1 is reproduced below.

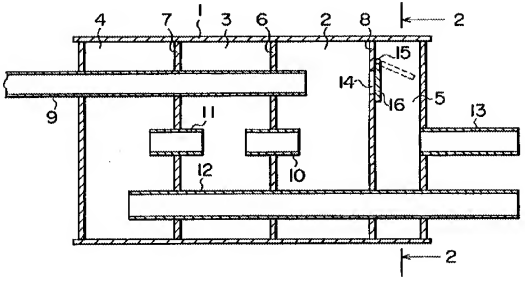

FIG. 1

Figure 1 is a vertical sectional view of a noise suppressor according to a first embodiment of Yashiro's invention (*id*, col. 3, ll. 49-50). The valve is identified by reference numeral 16 (*id.*, col. 5, ll. 7-10).

Yashiro's Figure 2 is reproduced below.

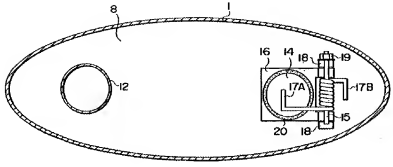

FIG. 2

Figure 2 is a cross-sectional view of the noise suppressor taken along a line 2--2 in Figure 1 (*id.*, col. 3, ll. 51-52). Figure 2 shows a coil spring 17 for biasing the valve 16 into a closed position covering opening 14 (*id.*, col. 5, ll. 18-22).

Figure 11 is reproduced below.

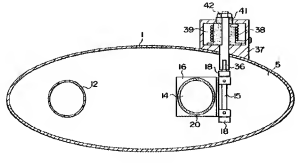

FIG. 11

Figure 11 is similar to Figure 2 but shows an eighth embodiment of Yashiro's invention (*id.*, col. 4, ll. 3-4). Instead of employing the spring 17

of the first embodiment, a spring 38 for valve 16 is provided outside the muffler 1 (*id.*, col. 7, ll. 40-41).

Yoshiro does not describe his invention as being useful with power sources of the type recited in Appellants' claims, i.e., (a) internal combustion power sources that exhibit, during operation, larger ranges of acoustic frequency, flow rate or pressure in exhaust flow than found in conventional internal combustion power sources and (b) internal combustion power sources that exhibit discontinuities in exhaust gas flow during operation, such as hybrid power sources.

The Examiner concluded that the preambular language is either entitled to no weight or, if entitled to weight, broad enough to read on Yashiro (Answer 4-5[1]).

B. Whether the preambles should be given weight

> In general, a preamble is construed as a limitation "if it recites essential structure or steps, or if it is 'necessary to give life, meaning, and vitality' to the claim." *Catalina Mktg. Int'l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 808 (Fed.Cir.2002) (quoting *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305 (Fed.Cir.1999)). A preamble is not limiting, however, " 'where a patentee defines a structurally complete invention in the claim body and uses the preamble only to state a purpose or intended use for the invention.' " *Id.* (quoting

[1] References herein to the Answer are to the Answer mailed December 13, 2007, which differs in substance from the Answer mailed August 1, 2007, by omitting the "Related Proceedings Appendix" that appeared at page 3 thereof.

> *Rowe v. Dror*, 112 F.3d 473, 478 (Fed.Cir.1997)). In *Catalina*, we identified several guideposts to aid in determining whether a preamble should be given limiting weight.

Symantec Corp. v. Computer Assocs. Int'l, Inc., 522 F.3d 1279, 1288-89 (Fed. Cir. 2008). Among the guideposts identified in *Catalina* are the following:

> [D]ependence on a particular disputed preamble phrase for antecedent basis may limit claim scope because it indicates a reliance on both the preamble and claim body to define the claimed invention. *Bell Communications Research, Inc. v. Vitalink Communications Corp.*, 55 F.3d 615, 620, 34 USPQ2d 1816, 1820 (Fed. Cir. 1995) ("[W]hen the claim drafter chooses to use both the preamble and the body to define the subject matter of the claimed invention, the invention so defined, and not some other, is the one the patent protects."). Likewise, when the preamble is essential to understand limitations or terms in the claim body, the preamble limits claim scope. *Pitney Bowes [Inc. v. Hewlett-Packard Co.]*, 182 F.3d [1298,] 1306 . . . [(Fed. Cir. 1999)].

Catalina, 289 F.3d at 808.

The Examiner's reason for according the preambles no weight is that "the claim following the preamble is a self-contained description of the structure not depending for completeness upon the introductory clause. Kropa v. Robie, [187 F.2d 150] 88 USPQ 478 (CCPA 1951)" (Answer 4-5). Appellants argue that the preambles are "necessary to give life, meaning and vitality to the claims" and thus are entitled to weight under *Kropa* (Br. 6). Appellants further argue that the preambles "serve to focus the reader on the invention that is being claimed," citing *On Demand Machine Corp. v.*

Ingram Indus. Inc., 442 F.3d 1331 (Fed. Cir. 2006) (Br. 6). More particularly, Appellants argue that

> [a]s in *On Demand*, Appellants' preamble serves to focus the reader on the invention that is being claimed. For example, in Appellants' independent claim 1, the very thrust of the invention is to alter a characteristic of the gas flow for the larger ranges of acoustic frequency found in non-conventional internal combustion power sources as called for in the preamble.

Br. 6. Appellants further argue that "[i]ndeed, each independent claim of Appellants' instant application has a term in its body that refers back to the preamble. The entirety of the claim implements the preamble's environment and is therefore evidence that the preamble of Appellants' claims indeed is a limitation distinguishing them from the prior art." *Id.*

We agree with Appellant that the claim preambles are entitled to weight. In claims 1 and 16, the body of the claim recites "larger ranges," a term whose meaning is apparent only from each preamble, which recites "a non-conventional internal combustion power source exhibiting, during operation, larger ranges of acoustic frequency, flow rate or pressure in exhaust flow than found in conventional internal combustion power sources." Thus, this is clearly a case in which "the claim drafter [has] cho[sen] to use both the preamble and the body to define the subject matter of the claimed invention," *Catalina*, 289 F.3d at 808 (quoting *Bell Communications Research*, 55 F.3d at 620), and in which "the preamble is essential to understand limitations or terms in the claim body." *Catalina*, 289 F.3d at 808 (citing *Pitney Bowes)*. *See also Pitney-Bowes*, 182 F.3d at

1306 ("[B]oth independent claims conclude with the clause 'whereby the appearance of smoothed edges are given to the generated shapes'. Because this is the first appearance in the claim body of the term 'generated shapes', the term can only be understood in the context of the preamble statement 'producing on a photoreceptor an image of generated shapes made up of spots'.").

The effect of giving weight to the preambles of method claim 1 and apparatus claim 21 is that the step of "placing a passive temperature resistant valve in a path of exhaust gas flow, the valve operative to at least partially alter a characteristic of the exhaust gas flow for the larger ranges" (claim 1) and the recited "a passive, temperature resistant valve positioned in a path of exhaust gas flow, the valve operative to at least partially alter a characteristic of the exhaust gas flow for the larger ranges" (claim 16) must be performed in (claim 1) or located in (claim 16) the exhaust system of "a non-conventional internal combustion power source exhibiting, during operation, larger ranges of acoustic frequency, flow rate or pressure in exhaust flow than found in conventional internal combustion power sources."

Similarly, the effect of giving weight to the preambles of method claim 6 and apparatus claim 21 is that the step of "placing a passive, temperature resistant valve in a path of exhaust gas flow, the valve operative to at least partially alter restriction of the exhaust gas flow whenever a discontinuity occurs" (claim 6) and the recited "a passive, temperature resistant valve positioned in a path of the exhaust gas flow, the valve

operative to at least partially alter restriction of the exhaust gas flow whenever a discontinuity occurs" (claim 21) must be performed in or located in an exhaust system for an internal combustion power source exhibiting discontinuities in exhaust gas flow during operation.

C. Whether Yashiro anticipates the claims

"To anticipate a claim, a prior art reference must disclose every limitation of the claimed invention, either explicitly or inherently." *In re Schreiber*, 128 F.3d 1473, 1477 (Fed. Cir. 1997).

As already noted, Yashiro fails to describe using any of his muffler arrangements with either of the types of power sources recited in the preambles. The Examiner nevertheless concluded that the claims read on Yashiro's muffler system even assuming the preambles are entitled to weight, because Yashiro's muffler system "is operative, able or capable of at least partially altering a characteristic of the acoustic frequency, flow rate or pressure of an exhaust system of a non-conventional power source" (Answer 5), which we understand to mean that Yashiro's muffler system will inherently function in the manner required by the claims if used with a power source of the type recited in the preambles. This position is unpersuasive because the claims as properly construed require that the recited steps and apparatus be performed or located *in* the exhaust systems of power sources of the type recited in the preambles. As a result, a reference, in order to anticipate the claimed method and apparatus, must disclose

performing the claimed method steps in and locating the claimed apparatus in the exhaust systems of such power sources.

DECISION

We are unable to sustain the rejection of independent claims 1, 6, 16, and 21 or their dependent claims under 35 U.S.C. § 102(b) for anticipation by Yashiro.

The Examiner's decision that the subject matter of claims 1-24 is anticipated by Yashiro is therefore reversed.

REVERSED

rvb

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